

### Supplemental Information

**Table S1:** List of selected members of different allergen families with their origin, route of exposure, predicted linear epitopes using the AlgPred2.0 online tool and known conformational and linear B-cell epitopes determined using the IEDB.

Family name	Allergen Name	Origin	Route of exposure	Predicted sequential epitopes	known conformational B cell epitopes	known linear B Cell epitopes	# of known linear B Cell epitopes	# of known linear T Cell epitopes
AllFam				AlgPred 2.0	IEDB	IEDB		
Bet v 1 family	Bet v 1	White birch	Airway	EQVKASKEMGETLLRAVESYLLA EVDHTNFKYNYSVIEG GFPFKYVKDRVD INFPEGFPFK KAEQVKASKEMGETLLRAVESYLLAHS DAYN MGETLLRAVESYLL NIEGNGGPGTIKK RAVESYLLAHS DAY SKEMGETLLRAVESYLLAHS D TNFKYNYSVIEG	S113 E43, N44, I45, E46, G47, N48, G49, G50, P51, G52, T53, R71, D73, H77, I87, K98 N29, K33, E46, P109 Y6, K135, E43, E46, N79, K104, K124, D157 T11, F31, S57, S113, I114 E40, N41, I42, E43, G44, N45, G46, G47, P48, G49, T50, K53, R68, D70, H74, I84, K95 E7, T10, N29, F31, K56, K66, K116, K120, D126, K135, E139	KAEQVKASKEMGETLLRAVESYLLAHS DAYN ISFPEGFPFK DGDNLFPKVA DGG SILKISNKYHTKGDHEVKA EQVKASKE GPGTIKKISFPEGFPFKYVKDRVDEV DHTN ILDGDNLF PKVAPQAI LFPKVAPQAISSVENIEGNGGPGTIKKISF MGETLLRAVESYLL MGVFN YETETTSVIP AARLFKAFI SKEMGETLLRAVESYLLAHS D VDHTNFKYNYSVIEGGPIGDTLEKISNEIK EVDHTNFKYNYSVIEG GGPIGDTLEKISNEIK GPGTIKKISF EQVKASKEMGETLLRAVESYLLA GDNLF PKVAPQAIS ISFPEGFPFKY ISFPEGFPFKYVKD INFPEGFPFK ISFPEGIPFK ITFPEGSPFK FILDGDNLF PKVAPQAISVE NIEGNGGPGTIKK ISSV SSVE SVEN	26	197
Bet v 1 family	Mal d 1	Apple	Food	IDEA	S112 N8, E9, F10, T11, S12, E13, I14, D28, N29, L30, I31, P32, K33, I34, K55, K56, I57, T58, F59, G60, E61, T122, K123, G124, N125, I126, E127, I128 T11, I31, T58, T113, I114	-	0	48
Bet v 1 family	Api g 1	Celery	Food	LPKAAPGA	no published epitopes	LGFIESIENH VVPEENIKYAN	2	14
Bet v 1 family	Pru av 1	Sweet cherry	Food	no epitopes found	N29	-	0	1

					S113 E46			
Bet v 1 family	Ara h 8	Peanut	Food	IDEA	no published epitopes	NAMKDADSITPKIIDDVKSV NYSVVGGVALPPTAEKITFE	2	0
Bet v 1 family	Aln g 1	Alder	Airway	ITFPEGSPFK NIEGNNGPGTIKK SVIPAARLFKAF	no published epitopes	-	0	48
Profilin	Ara h 5	Peanut	Food	DGSVWAQS GDYLID IKKTNQALIIG KTNQALIIGI TPGQCN TPGQCNMIVE	no published epitopes	MNDFAEPGSLAPTGL APTGLYLGGTKYMMVIQGEPPG GVTIEKTNQALIIGIYDKPM GVWAQSSHFPPQFKPEEITAI LIIGIYDKPMTPGQCNMIVE	5	0
Profilin	Hev b 8	Latex	Contact	AAIIGQD DGSVWAQS GDYLID IDQGY KTNQALIIGI MSWQAYVDDH NMIVERLGDY TPGQCN TPGQCNMIVE	antigen not found	- - -	-	-
Profilin	Ara t 8	Mouse-ear cress	Airway	DGSVWAQS IQGEQGAVIRG TAAAILGQDG	antigen not found	- - -	-	-
Profilin	Amb a 8	Short ragweed	Airway	MSWQAYVDDH TPGQCN VERPGDYL	no published epitopes	-	0	9
Profilin	Art v 4	Mugwort	Airway	KYMVIQGEAG QGEAGAVIRG YVDDHLMCDI	no published epitopes	-	0	0
Profilin	Tri a 12	Wheat	Food	APTGLFLGGT FLGGTKYMMVI GDYLID IDQGY TPGQCN	antigen not found	- - -	-	-
Lipocalin	Bla g 4	German Cockroach	Airway	LDQVNQHKKAIEDLKHFNLYEDLHSTCH SVRRFHPKLGDK	antigen not found	- - -	-	-
Lipocalin	Fel d 7	Domestic cat	Airway	no epitopes found	no published epitopes	-	0	0
Lipocalin	Mus m 1	House mouse	Airway	no epitopes found	no published epitopes	-	0	106
Lipocalin	Blo t 13	Storage mite	Airway	no epitopes found	no published epitopes	ASVGDVTSVRTYKRI DVVVVASVGDVTSVRTYKR EVDVQGDYVFRSLSTFKNT GEEFEEDRADGKRVTVVNK IQTQYGDKEVKIVRDFQGGDD	21	0

						LSTFKNTEIKFKLGEEFEED MPIEGKYKLEKSDNFDKFLD MVKTAAKTLKPTLEVDVQGD NFDKFLDELGVGFMVKTAAK RDFQGDDVVVTASVGDVTSV STFKNTEIKFKLGEEFEED VKTVVNKEGDNKFIQTQYG EIKFKLGEEFEEDRA FKLGEEFEEDRADGK IEGKYKLEKSDNFDK KNTEIKFKLGEEFEE KYKLEKSDNFDKFLD LEKSDNFDKFLDELG QTQYGDKEVKIVRDF SDNFDKFLDELGVGF YGDKEVKIVRDFQGD			
Lipocalin	Can f 2	Domestic dog	Airway	no epitopes found	no published epitopes	-	0	0	
Plant defensin	Art v 1	Mugwort	Airway	no epitopes found	no published epitopes	-	0	21	
Class I chitinase	Pers a 1	Avocado	Food	AEQCGRQAGG	antigen not found	-	-	-	
Beta-1,3-glucana	Mus a 5	Banana	Food	GLFYPNKQP IRRNVVAYWPSVSFR MRNIYNALSSAG NLIRHVGGGTPR NNIARMRLYDPNQAA QNFGLFYPNKQPVYQ SAAGDWIRRNVVAYW SEVVSLYKSNNIARMRLYDPNQAA YNQNLIRHVGGGTPR	no published epitopes	GLFYPNKQP IRRNVVAYWPSVSFR MRNIYNALSSAG NLIRHVGGGTPR NNIARMRLYDPNQAA QNFGLFYPNKQPVYQ SAAGDWIRRNVVAYW SEVVSLYKSNNIARMRLYDPNQAA YNQNLIRHVGGGTPR	9	0	
Acidic protein	Hev b 5	Latex	Contact	108 epitopes predicted	antigen not found	-	-	-	
Havein-like and class I/II chinase	Hev b 6.02	Latex	Contact	108 epitopes predicted	antigen not found	-	-	-	